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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/053,650

04/02/1998

KWANG CHEOL JOO

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09/05/2008

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
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EXAMINER

BROWN, RUEBEN M

ART UNIT

PAPER NUMBER

2623

MAIL DATE

DELIVERY MODE

09/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 09/053,650 | Applicant(s) JOO ET AL. | |
| | Examiner REUBEN M. BROWN | Art Unit 2623 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27,28,32,42 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27,28,32,42 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/18/2008 has been entered.

Response to Arguments

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. Applicant argues on page 7, that the references do not teach, "restarting the downloading program... and updating the predetermined number". However, examiner does not find the claimed recitation of '*updating the predetermined number*', in the claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 27-28, 32, 42 & 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metz, (U.S. Pat # 5,666,293), in view of Britt, (U.S. Pat # 6,230,319) and Biondi, (U.S. Pat # 6,622,246).

Considering claim 27, the claimed downloading apparatus for a broadcast receiver, comprising:

‘receiver which receives a broadcast signal having a program signal and control information signal’; col. 6, lines 50-65; col. 7, lines 62-67 thru col. 8, lines 1-2 & Fig. 1 teach a STT 100, including a DET 102 that receives video programs and operating system software, which reads on a ‘control information signal’.

‘storage element which stores a control program, such that the control program controls the operation of a video program corresponding to the video program’; reads on the DET storing the operating system for the STT, which defines the basic operations of the STT 100, col. 8, lines 9-34.

'storage element further comprising RAM for temporarily storing the downloaded control program', met by col. 10, lines 1-9 & col. 17, lines 45-56, newly extracted operating system is stored in RAM 122.

'non volatile RAM, including a second domain for storing a control program', reads on Metz, (col. 8, lines 9-25; col. 10, lines 1-15; col. 20, lines 44-62), which teaches that the operating system and the operating system upgrade routine may be stored in NVRAM 121.

'non-volatile RAM, including a first domain that stores a version number of the control program stored in the second domain, when the control program is valid', reads on the above discussion that the operating system (which necessarily includes its version number) and the operating system upgrade routine are both stored in NVRAM 121, also col. 36, lines 25-55.

As for the claimed, *'non-volatile RAM including a first domain that further stores predetermined number indicating that the downloaded procedure was suspended due to signal transmission error'*; Metz teaches that the DET uses checksum procedure to determine if there are any errors in the downloaded operating system, col. 37, lines 44-67 thru col. 38, lines 1-40 & Fig. 9. However, Metz does not explicitly state that the checksum value is stored in the flash memory. Nevertheless Britt, which is in the same field of endeavor, teaches that when there is disruption of the downloading of an upgrade program, that a No PWR FLAG is set, which indicates to the upgrade routine that downloading of the instant application program was

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incomplete, see (Fig. 15; col. 11, lines 35-67 thru col. 12, lines 1-35). Britt goes on to disclose that in this instance, a field NUM...BLOCKS is provided in the flash memory 22b, which indicates the number of blocks that were written into the flash memory so far, which reads on the claimed language. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Metz with the disclosure of storing a value in flash memory when there is a loss of power, at least for the added benefit of explicitly indicating that such a loss of power has taken place, as taught by Britt, (Abstract; col. 2, lines 1-38; col. 3, lines 1-20).

'initial boot routine includes checking whether or not a value stored in the first domain is the predetermined number and if so, automatically updating the control program', is provided for **by the combination** of **Metz** disclosing that the version number of an incoming operating system is checked against the current operating system and if the numbers do not match, then the incoming versions is extracted, col. 10, lines 1-9 & col. 17, lines 45-56. Metz also teaches that in an initial boot routine, the system can check for faults in the software programs or in the DET 102, (col. 22, lines 25-45) and **Britt** teaching that there is specific field (NUM...BLOCKS), left in the flash memory 22b, when a disruption takes place during the downloading of an application program, which results in the interruption of the downloading of the instant application program. More specifically, Britt teaches that any time the STB is turned on, the start-up routine checks to see if there is a value in the NO PWR FLAG memory location. If so, then the downloading procedure is restarted from the same point, if the items already downloaded are not corrupted, see col. 12 lines 10-35.

'microcontroller that replaces the control program stored in the second domain temporarily stored in RAM based on the control information and the version number of the control program', reads on operation of the microprocessor 110, in Metz col. 36, lines 54-67; col. 38, lines 1-55.

As for the newly added claimed feature, *'predetermined number indicating that the control program which had been stored in the second domain has been deleted and that a new control program is being downloaded'*, indeed the system in Britt restarts to download the software from where the error left off, which is different from the claim. However, Biondi provides a reference that teaches when there is a problem in the firmware, it is erased (i.e., deleted) and new firmware is downloaded, see col. 5, lines 5-30 & Fig. 5. . It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the combination of Metz & Britt, with the technique of erasing the corrupted software and downloading a new one, for the purpose of more effectively upgrading the firmware of the remote computer, as taught by Biondi, see col. 1.

Considering claim 28, *'wherein the broadcast signal includes a PID in order to identify the type of information of the broadcast signal'*, Metz teaches such a feature, col. 36, lines 54-56.

Considering claim 32, the claimed, *'signal processor for separating the control information signal from the broadcast signal'* reads on the disclosure of Metz, which teaches extracting the download program from the transmission stream, col. 10, lines 1-5.

Considering claim 42, the claimed method steps for downloading a control program from a broadcast signal in a digital receiver, corresponds with subject matter mentioned above in the rejection of claim 27, and are likewise treated.

Considering claim 46, Metz teaches that the operating system, which necessarily includes its version number, is stored in non-volatile RAM, col. 17, lines 40-45 & col. 18, lines 1-10, which reads on the claimed subject matter.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Cooper Teaches a fault tolerant system for upgrading software.

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Any response to this action should be mailed to:

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P.O. Box 1450
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or faxed to:

(571) 273-8300, (for formal communications intended for entry)

Or:

(571) 273-7290 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F(8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Reuben M. Brown/
Patent Examiner, Art Unit 2623